RESULTS of EXPERIMENTS in *Ground Lias Lime, Dudley Oolite Lime, Coarse and Fine Hammer-scale and Sand: the specimens had been set three Months.*

Proportions.	Broke at.	Broke at.	Broke at.
	Common Lime and Sand.	Common Lime and Coarse Hammer-scale.	Common Lime and Fine Hammer-scale.
1 to 1	230. 370. 160.	250. 190. 210.	320. 350. 340.
1½ to 1	270. 240. 170.	280. 185. 378.	170. 180. 150.
2 to 1	210. 160. 240.	490. 320. 200.	220. 100. 210.
2½ to 1	260. 280. 250.	340. 360. 420.	100. 80. 130.
	Ground Lime and Sand.	Ground Lime and Coarse Hammer-scale.	Ground Lime and Fine Hammer-scale.
1 to 1	685. 908. 300.	560. 800. 750.	180. 210. 220.
1½ to 1	300. 840. 751.	751. 895. 695.	260. 260. 245.
2 to 1	180. 240. 200.	808. 895. 781.	400. 200. 395.
2½ to 1	220. 200. 200.	808. 635. 635.	560. 400. 540.
	Common Lime and Sand.	Common Lime and Coarse Hammer-scale.	Common Lime and Fine Hammer-scale.
1 to 1	170.	200. 160.	80. 110.
1½ to 1	240.	195. 240.	170. 120.
2 to 1	70. Set under water.	150. 175. Set under water.	80. 90. Set under water.
2½ to 1	90.	200. 195.	190. 190.
	Ground Lime and Sand.	Ground Lime and Coarse Hammer-scale.	Ground Lime and Fine Hammer-scale.
1 to 1	140. 110.	200. 210.	100. 100.
1½ to 1	120. 120. Set under water.	200. 190. Set under water.	105. 110. Set under water.
2 to 1	80. 90.	170. 210.	130. 120.
2½ to 1	100. 100.	260. 310.	110. 120.
	Common Lime and Sand.	Common Lime and Coarse Hammer-scale.	Common Lime and Fine Hammer-scale.
1 to 1	490. 470.	900. 510. 1st not br.	808. 895.
1½ to 1	450. 440.	900. 900. not broken	200. 220.
2 to 1	470. 480.	560. 895.	460.
2½ to 1	500. 820.	895. 600.	600. 420.
	Ground Lime and Sand.	Ground Lime and Coarse Hammer-scale.	Ground Lime and Fine Hammer-scale.
1 to 1	900. 900. not broken	900. 900. not broken	360. 540.
1½ to 1	808. 300.	900. 900. not broken	540. 360.
2 to 1	808. 590.	840. 750.	395. 470.
2½ to 1	664. 780.	750. 895.	435. 525.

B. Baylis.

RAILWAY JOTTINGS.

In casualties occurring from trains running off the rail, the Railway Commissioners have found that out of twenty cases, in five only the carriages appear to have left the line, while in fifteen the engine left the rails. In the majority of cases on record, passengers have been killed, and seriously injured: but the case of the Caledonian express on Tuesday week is a remarkable exception. The commissioners report that in several the engines or carriages left the line in consequence of a previous accident, such as a faulty rail, or a broken axle or tire, but that in other cases the cause has not been satisfactorily accounted for. They call particular attention to the security or insecurity of different descriptions of engines, and the possible inefficiency of the permanent way to break the action of powerful engines at high speed, and direct their inspecting officers on the various lines to investigate the whole subject of engine speed, construction, and economy. ——A committee has been appointed by the directors of the London and North-Western, consisting of Mr. Dockray, the resident engineer; Mr. MacConnell, the locomotive superintendent; Mr. Madigan, the ballast-carrying contractor for the southern division of the line; and Mr. Crampton, C.E., for the purpose of discussing by what means the comparative deterioration of the permanent way, caused by heavy engines of different classes, may be ascertained.——A correspondent of the *Times*, "A Mechanic," suggests, as a preventive of engines running off a line, the fixing of a "spring bar to the carriage adjoining the engine, so as to separate from it immediately the pull became oblique, precisely in the same manner as a man is separated from his horse when dragged by the stirrup straps." For further security, he adds, "the carriage next the engine should be provided with a break, that the train may be stopped when separated; and, if required, a few of the leading carriages may also have the spring bar as an additional security." ——Dr. J. Murray, of Hull, who appears to be always reminded by every forthcoming invention that he had previously invented either the same, or something very like it, states, in the *Mining Journal*, that an alarum signal, with a whistle and air reservoir, &c., recently noticed in The Builder, reminds him of a "very simple, effectual, and inexpensive telegraph alarum signal," with whistle and air reservoir, &c., to match, which has been for some time the object of *his* thoughts. It is to be worked with strings and pulleys of course, and an adaptation of the tavern waiters' dangling pendulum bell system for "detection" of the particular number of the carriage, and hence of the particular number of nervous old women of both sexes, or young children, who may sound the alarum "on false pretences." The doctor points particular attention to the fact, that *his* alarum is worked by "condensed air." How we long to see the anxiety displayed by each alarmed hysterical alarmist himself that the guards should "detect" his "false pretences!" and then, to be fairly within ear-shot of the volume of "condensed air," which would issue—simultaneously with the screech of "hell in harness"—from the "air reservoirs," not only of guards and drivers, but of every natural and original "alarum-signal" in the train, always saving and excepting the already exhausted vocal strings and pulleys of the still more *original* alarmist—when his 'call' had been promptly but uselessly responded to, to the annoyance and loss of all and sundry, and to the escape of no little steam as well as *heat!* It is really astonishing that an indefatigable, and we might almost say professional inventor, who knows all about every thing, should not have hit upon something more original, or more to the point and purpose, with an enlightened view to *all* possible contingencies and consequences.——Mr. L. D. B. Gordon has patented a rail with a lap joint, to prevent the loaded rail from sinking below the one directly in front of it on approach of a train.——A patent has also been taken out by Mr. E. Albon, for an apparatus for regulating and increasing the draught in locomotive chimneys. It consists of a pipe of copper, or other suitable material, affixed to the chimney, one end of which is bell-mouthed and open to the atmosphere, and the other turns upwards into the smoke-box in a perpendicular direction: the blast or steam-pipe passes up through the bend, and, by its exhausting action, it is stated, causes the air which passes in at the bell-mouth to rush rapidly through the same into the chimney. By this means, it is said, the current will be regular, though the steam is intermittent.—— Several trips have been made on the West London line with a little passenger-carriage engine, the *Fairfield*, which has been constructed for one of the branches of the Bristol and Exeter. The engine, tender, and carriage are on one frame, and weigh, with coke and water, about 10 tons.—— The Great Western announces the indefinite suspension of nine branch lines, for which Acts have been obtained authorising shares and loans to the amount of 2,660,012*l.* On account of these lines, 350,000*l.* have already been spent. The total still required for the main line, unfinished branches, purchases, subsidiary undertakings, and lines not yet begun, including "plant" for all, is 4,137,844*l.*, to be levied within two or three years. As regards unfinished lines, however, the statement is only made up to 30th of June last, since which the line from Reading to Basingstoke has been opened for traffic.——The South-Western are suspending all works that it would require more than a year to complete, as the lines from Basingstoke to Salisbury, and from Farnham to Alton. In the former, great progress has been made. The extension from Waterloo to London-bridge is also suspended. The money required to complete engagements that cannot be postponed is estimated at 745,441*l.* The Directors state that they have a large amount of property in houses and land; 327 houses on the Richmond and Metropolitan Extension lines alone; a quantity of surplus rails, and 264 arches of the viaduct from Nine Elms to the Waterloo-road, property not easily estimated; but with expected traffic they calculate on a return of 4 to 6 per cent.—— The *Reading Mercury* states, that between Andover and Basingstoke the works on the Basingtoke and Salisbury line are suspended by order of Mr. Brassey, the contractor, this branch being to be carried no further than Andover for the present. Thus far the works are in a very forward state.——All the works on the Cornwall Railway, it is said, have ceased, and the contractors, Messrs. Findlater and Drew, have sold all their horses, &c., that were employed on it. About 200,000*l.* have already been expended by this Cornwall Company, but chiefly for mere preliminary expenses.—— The Portrack railway bridge across the Nith is of wood, in eight spans of 50 feet each; two ditto 13 feet; one of 5 feet; and pier work, 70 ditto. The timber used is of Memel, 26,000 feet, or 52 tons in all. The expense of the work is estimated at 7,000*l.* The contractor employed is Mr. Waddell, by appointment of the Messrs. Jeffs.

Compensation Case at Birmingham.—The London and North-Western Railway Company and the Governors of King Edward's Free Grammar School, by counsel, before an assessor and a special jury, on Thursday in last week, argued a case of compensation for property in New-street and its vicinity, taken by the company for their extension through and under the streets of Birmingham, to the Wolverhampton, Dudley, and Stour Valley Railway. The property in question consisted of 14,000 square yards, occupied by seventy houses, at a rental of nearly 1,100*l.* a-year, and forming a portion of property worth 20*l.* a-year in King Edward's time, and granted by his Majesty for the education of Birmingham children.—the inhabitants having preferred the property to an alternative offer of 20*l.* a year in money, a sum still granted to King's Norton on the like alternative. On the part of the governors, Mr. Jeremiah Matthews, of Park Hall, near Kidderminster, the land-surveyor and agent of Lords Ward and Lyttleton, was called, and valued the property taken at 42,315*l.* 8s. 4d.; Mr. Dugdale Houghton, surveyor, at 42,379*l.*; and Mr Ebenezer Robins, at 42,514*l.* 9s., including 5 per cent. for compulsory sale. Mr. Robins had first claimed 45,000*l.*, and Mr. Fowler, on the part of the company, offered 40,000*l.*, but withdrew his offer. On the part of the company it was argued that there was no compulsory sale, the governors having assented to the scheme for the purpose of disposing of the property, and that 23,000*l.* was sufficient, but that 25,000*l.* would be given. Verdict for claimants —for land and houses, 39,603*l.* 10s.; for severance, 250*l.*; total, 30,853*l.* 10s. The claim was 42,000*l.* A second inquiry was settled by consent. The school claimed 750*l.*; the company consented to give 500*l.* Verdict for that amount.